Fact Sheet
January 2013

Facility Name:	***Belmont Advanced Wastewater Treatment (AWT) Plant***	***Southport Advanced Wastewater Treatment (AWT) Plant***
Address:	2700 South Belmont Ave. Indianapolis, Indiana	3800 West Southport Rd. Indianapolis, Indiana
Receiving Water:	West Fork of the White River	West Fork of the White River

Outfall 001 Location	Latitude:	39° 39' 51" N
Southport AWT Plant	Longitude:	86° 14' 8" W
Outfall 006 Location	Latitude:	39° 43' 5" N
Belmont AWT Plant	Longitude:	86° 11' 8" W

NPDES Permit No. IN0023183

Background

This is the proposed renewal of the NPDES permit for the Belmont and Southport AWT Plants which was issued on December 26, 2007, and has an expiration date of January 31, 2013. The permittee submitted an application for renewal which was received on August 3, 2012.

Wastewater from the Indianapolis collection system is treated by one of two advanced wastewater treatment (AWT) plants. The Belmont AWT plant receives flow predominantly from the central, west, north and east sides of Marion County. The Southport AWT plant receives flow predominantly from the east and south sides of Marion County and from the City of Greenwood. As further described below; flow from the Belmont AWT can be diverted to the Southport AWT during both wet and dry weather. The sludge generated at the Southport AWT plant is pumped to the Belmont AWT plant for treatment and ultimate disposal. Thus, the two AWT plants function and are operated as a single system.

Belmont Advanced Wastewater Treatment (AWT) Plant

The Belmont Advanced Wastewater Treatment Plant (Belmont AWT Plant) is a Class IV nitrification facility with screening, grit removal tanks, primary clarifiers, , oxygen/air nitrification system (ONS/ANS), final clarifiers, coarse sand mono-media tertiary filters, effluent disinfection by chlorination/dechlorination, ultraviolet (UV) radiation, and effluent flow monitoring.

The Belmont AWT Plant has an average design flow of 120 MGD and a peak design flow of 300 MGD. The Belmont AWT Plant has two wet weather storage basins: a 30-million gallon basin (EQ basin 1) to store primary influent and/or primary effluent during wet weather and a 4-million

gallon basin (EQ basin 2) to store primary effluent during wet weather. Sludge treatment includes gravity belt thickening, gravity thickening, equalization, belt filter press dewatering, and incineration or landfilling. Centrifuges are being installed in phases to replace sludge dewatering via belt filter presses.

As part of the City's CSO Long-Term Control Plan, as amended and approved by the United States Environmental Protection Agency (U.S. EPA), the permittee has constructed the Belmont AWT Plan Wet Weather Secondary Treatment (WWST) Expansion Project, consisting of an Air Nitrification System (ANS), operated in series with the existing ONS, to expand the plant's design peak secondary treatment capacity to 300 MGD. As a result, the existing biological roughing system (BRS) towers have been taken out of service. In addition, improvements to the AWT facilities include a UV disinfection system to handle peak flows up to 150 MGD and modification of the existing ozone contact tank to be used in the wet weather chlorination/dechlorination disinfection process for flows above 150 MGD and up to 300 MGD.

The mass limits for $CBOD_5$, TSS, and ammonia-nitrogen at Outfall 006 are based on the peak design flow of 300 MGD.

The Belmont AWT Plant has the following flow diversions located within the facility:

1. Primary Effluent Diversion Structures: A primary effluent diversion structure exists at the 96 Structure/Junction Structure No. 1. This diversion allows primary effluent to be diverted to the EQ basin 2 or the ONS Wet Weather Pump Station. A second primary effluent diversion structure exists at Junction Structure No. 2 which allows primary effluent to be diverted around ANS and directly to the ONS Wet Weather Pump Station.

2. Effluent Filters Diversion: An oxygen nitrification system effluent diversion exists prior to the facility's effluent filters. All or a portion of the oxygen nitrification system effluent can be diverted around the effluent filters to the chlorine contact tanks.

The Belmont AWT Plant has the following flow diversions located in the collection system or at the AWT facility, all of which are capable of diverting flow from the Belmont AWT Plant to the Southport AWT Plant.

Southwest (Southern Avenue) Diversion: A raw wastewater flow diversion exists external to the Belmont AWT Plant at the Southwest Diversion Structure located near Southern Avenue. Raw wastewater may be diverted via a 60-inch diameter gravity sewer to the Southport AWT Plant depending on the system hydraulics and plant capacities. Actual flow rates during wet weather events have been 40 – 45 MGD.

Belmont Wet Weather Pump Station (Raw Wastewater): A raw wastewater diversion exists prior to the facility's headworks. Raw wastewater from the Belmont Interceptor may be pumped by Belmont's Wet Weather Pump Station to the Southport AWT Plant via a 42-inch force main to the Tibbs Interceptor. Depending on the system hydraulics, the pumping capacity is 28-30 MGD.

Belmont Wet Weather Pump Station (Primary Effluent): A primary effluent flow diversion exists after the Belmont Primary Clarifiers. Primary effluent stored in Wet Weather Storage Basin No. 1 may be pumped by Belmont's Wet Weather Pump Station to the Southport AWT Plant via a 42-inch force main to the Tibbs Interceptor. Depending on the system hydraulics, the pumping capacity is approximately 28-30 MGD.

Gravity Diversion (Primary Influent): A preliminary treatment flow diversion exists prior to the facility's primary clarifiers. Preliminary treatment flow from the diversion may be conveyed by gravity via the 42-inch force main to the Southport AWT Plant via the Tibbs Interceptor. Depending on the system hydraulics, the diversion capacity is 16-18 MGD.

Belmont Primary Effluent Pump Station (Primary Effluent): A primary effluent diversion exists after the facility's primary clarifiers. Primary effluent from the primary effluent channel may be pumped by the Belmont Primary Effluent Pump Station (PEPS) to the Southport AWT Plant via the 42-inch force main to the Tibbs Interceptor. Depending on the system hydraulics, the pumping capacity is 30 to 35 MGD. This pump station can also pump primary effluent flow to EQ basin 1.

Southport Advanced Wastewater Treatment (AWT) Plant

The Southport Advanced Wastewater Treatment (Southport AWT) Plant is a Class IV nitrification facility with screening, grit removal tanks, primary clarifiers, biological roughing towers, oxygen and air nitrification reactors, secondary clarifiers, mixed media tertiary filters, effluent disinfection by chlorination/dechlorination, effluent flow monitoring, and effluent pumping.

The Southport AWT Plant has a design average flow of 125 MGD with a peak design flow of 150 MGD. Sludges are conveyed to and centrally processed by thickening, dewatering and incineration operations at the Belmont AWT Plant's Solids Handling Section. The Southport AWT Plant has an equalization basin storage capacity of 25 million gallons. This basin is used to store screened raw wastewater. The basin is designed to be used during wet weather when the plant's treatment capacity has been reached. The mass limits for $CBOD_5$, TSS, and ammonia-nitrogen at Outfall 001 are based on the peak design flow of 150 MGD.

The Southport AWT Facility has the following flow diversions:

Raw Wastewater Diversion: Raw wastewater can be diverted to the 25 MG equalization basin after the screening process. The stored wastewater is returned to Southport's Headworks for full treatment after the influent flow rate decreases. The screened wastewater can also be diverted around the grit tanks, primary clarifiers, and bio-roughing towers directly to the Air Nitrification System (ANS).

Grit Chamber Diversion: A screened raw wastewater flow diversion exists prior to the grit chambers that allows flow to be diverted around the grit tanks at Structure 2-B to either the primary clarifiers or the bio-roughing towers.

Preliminary Treatment Effluent Diversion/Bypass: A preliminary treatment effluent diversion exists that allows flows to be diverted around the primary clarifiers to the bio-roughing towers. This diversion is located at the effluent channel of the grit chambers and sends screened and degritted flows to Structure 5-K and onto the bio-roughing towers. Under emergency conditions the preliminary treatment effluent flow can be mixed with primary effluent and bypassed via a 54-inch pipe to Little Buck Creek through Outfall 002 (formerly listed as Outfall 002B).

Primary Effluent Diversion/Bypasses: A primary effluent diversion exists after the primary clarifiers prior to the bio-roughing towers. Primary effluent can be diverted around the bio-roughing towers from Structures 7-F and 7-C directly to the ANS. Primary effluent can also be bypassed through Structure S-6 to a 60-inch pipe and discharged to Little Buck Creek through Outfall 004 (formerly listed as Outfall 002A). Primary effluent can also flow to Structure 5-K and be discharged through Outfall 002.

Bio-Roughing Diversion: Primary effluent diversions exist prior to the facility's bio-roughing towers. All or a portion of the primary effluent from the east and west primary clarifiers up to 90 MGD can be diverted to the oxygen nitrification facilities.

Air Nitrification Diversion: A bio-roughing tower effluent diversion exists which allows flow to be diverted to the air nitrification system.

ANS Effluent Diversion to Disinfection System: An air nitrification effluent diversion exists prior to the facility's tertiary filters. All or a portion of the air nitrification system effluent can be diverted around the intermediate pump station. This diversion system allows ANS effluent to be diverted around the effluent filters and flow by gravity to the effluent disinfection system.

Effluent Filters Diversion: An air and oxygen nitrification system effluent diversion exists prior to the facility's tertiary filters. All or a portion of the air and oxygen nitrification system effluent (up to 150 MGD) can be diverted around the effluent filters to the effluent disinfection system.

Several effluent monitoring tables included in the previous permit are not included in this permit renewal because they are no longer applicable. All effluent tables attributable to the Trickling Filter/Solids Contact (TF/SC) process have been removed because these processes are not utilized. Additionally, the effluent monitoring table concerning storm water associated with industrial activity at the Southport AWT Plant has been removed. Storm water associated with industrial activity at a WWTP is handled by a general permit by rule (327 IAC 15-6-7). The permittee must ensure that storm water discharges from Southport AWT Plant and Belmont AWT Plant are covered by the general permit by rule. This Office's Storm Water Section staff handles the permitting for such activities.

Collection System

The collection system is comprised of combined sanitary and storm sewers with 131 Combined Sewer Overflow (CSO) locations. Requirements for and location of the CSO points are included in the Attachment A to the NPDES permit. According to the NPDES permit application approximately 35% of the collection system is combined sanitary and storm sewers.

The previous permit listed three (3) sanitary sewer overflow points, which the permittee cites as being closed. Therefore, these overflow points are not included in the NPDES permit.

CSO Statutory or Regulatory Basis for Permit Provisions

CSOs are point sources subject to NPDES permit requirements, including both technology-based and water quality-based requirements of the CWA and state law. Thus the permit contains provisions IDEM deems necessary to meet water quality standards, as well as technology-based treatment requirements, operation and maintenance requirements, and best management practices. This permit is based on various provisions of state and federal law, including (1) Title 13 of the Indiana Code; (2) the water quality standards set forth in 327 IAC 2-1; (3) the NPDES rules set forth in 327 IAC 2 and 327 IAC 5, including 327 IAC 5-2-8 and 327 IAC 5-2-10; and (4) section 402(q) of the CWA (33 USC § 1342), which requires all permits or orders issued for discharges from municipal CSOs to conform with the provisions of EPA's National CSO Control Policy (58 Fed. Reg. 18688, April 19, 1994). EPA's CSO Policy contains provisions that, among other things, require permittees to develop and implement minimum technological and operational controls and long term control plans to meet state water quality standards. The permit's penalty provisions are based in large part on IC 13-30. In addition to the regulatory provisions previously cited, the data collection and reporting requirements are based in part on 327 IAC 5-1-3, 327 IAC 5-2-13 and section 402(q) of the CWA. The long term control plan provisions were included to ensure compliance with water quality standards.

Explanation of Effluent Limitations and Conditions

The effluent limitations set forth in Part I of Attachment A are derived in part from the narrative water quality standards set forth in 327 IAC 2-1-6. The narrative standards are minimum standards that apply to all waters at all times, and therefore are applicable to all discharges of pollutants. Because EPA has not issued national effluent limitation guidelines for this category of discharges, the technology-based BAT/BCT provisions are based on best professional judgment (BPJ) in addition to section 402(q) of the CWA. (CSO discharges are not subject to the secondary treatment requirements applicable to publicly owned treatment works because overflow points have been determined to not be part of the treatment plant. Montgomery Environmental Coalition v. Costle, 646 F.2d 568 (D.C. Cir. 1980).)

The Long Term Control Plan (LTCP) proposes to achieve 97 percent capture of combined sewage flows on Fall Creek and 95 percent capture on other waterways. The selected plan is expected to result in reducing the average annual combined sewer overflow frequency from 60 storms per year to approximately two storms per year on Fall Creek and four storms per year on other waterways, based on average rainfall statistics for Indianapolis.

The plan proposes the use of storage/conveyance facilities in all major watersheds combined with advanced wastewater treatment plant improvements. Facilities will be designed to achieve 97 percent capture on Fall Creek and 95 percent capture on White River, Pleasant Run/Bean Creek, Pogues Run and Eagle Creek. Sewer separation will be employed along Lick Creek, State Ditch and other isolated outfall locations. Flows will be collected from outfalls on a regional basis using conveyance facilities connected to a single deep tunnel. The deep tunnel will serve primarily as a storage facility, and the stored flows will be pumped out to the Advanced Wastewater Treatment (AWT) plants at the end of a storm event. The AWT facilities will be expanded and upgraded to provide treatment of wet-weather flows. The plan also includes the use of near-surface collection conduits and satellite near-surface storage facilities to control remotely located outfalls on upper White River and Pogues Run.
The key features of the plan are:

- A central tunnel system along Fall Creek and the White River, with a pumping facility located near the Southwest Diversion Structure.
- A collection interceptor for remote outfalls along Fall Creek and the White River to convey wet-weather flows into the central tunnel system.
- Satellite storage facilities for remotely located outfalls along upper White River and upper Pogues Run.
- Collection interceptors along Pogues Run, Pleasant Run and Bean Creek to convey wet-weather flows into the central tunnel system.
- A collection interceptor along Eagle Creek to convey wet weather flows to the Belmont AWT plant.

- An interplant connection interceptor from the Southwest Diversion Structure to the Southport AWT plant to convey stored tunnel flows to the Southport plant for treatment.
- Local sewer separation projects to eliminate isolated overflows on State Ditch, Lick Creek, White River and the upstream ends of Fall Creek, Pogues Run and Bean Creek.
- Belmont and Southport AWT plant improvements.
- Watershed improvements.

Currently, one CSO Treatment Facility exists in the collection system. The CSO Treatment Facility, located at Westfield Blvd and 56th Street, also known as Lift Station 507, is designed to provide 95% capture at a flow rate of 35 MGD with approximately 34 minutes of detention time. Screening/skimming, disinfection and dechlorination is provided. Flow rates up to 53 MGD have approximately 23 minutes of detention time. Flow rates greater than 53 MGD will receive screening and partial disinfection. Flow rates greater than 160 MGD will bypass the station entirely and be discharged into the White River via outfall 155. In addition, if the level at structure B3 reaches 707.5 feet or greater, the flow will automatically by-pass the station; if the river level gets to 706 feet, the station will also automatically be by-passed. Refer to the Attachment A to the permit for additional requirements on this discharge.

Spill Reporting Requirements

Reporting requirements associated with the Spill Reporting, Containment, and Response requirements of 327 IAC 2-6.1 are included in Part II.B.2.c. and Part II.C.3. of the NPDES permit. Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7.

It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedences that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals or humans does not occur. In order for a discharge or exceedence to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.

Solids Disposal

The permittee is required to dispose of its sludge in accordance with 329 IAC 10, 327 IAC 6.1, or 40 CFR Part 503.

Receiving Stream

The facilities discharge the West Fork White River to via Outfalls 001 and 006. The receiving water has a seven day, ten year low flow ($Q_{7,10}$) of 69 cubic feet per second (44.6 MGD) at the outfall location.

The receiving stream is designated for full body contact recreational use and shall be capable of supporting a well-balanced warm water aquatic community in accordance with 327 IAC 2-1. The West Fork White River at the Belmont AWT Plant outfall location is listed on the 2008 303d list as being impaired due to excessive mercury and PCBs in fish tissue. The West Fork White River at the Southport AWT Plant outfall location is listed on the 2008 303d list as being impaired due to excessive mercury and PCBs in fish tissue and for cyanide. A TMDL study has been written for the West Fork of White River for *E. coli* impairment. The TMDL is available for view at: http://in.gov/idem/nps/2839.htm.

Industrial Contributions

The permittee accepts industrial flow from approximately 54 industries. Based on the industrial flow received by the treatment facility, the permittee is required to operate its approved industrial pretreatment program approved on March 3, 1994 and December 29, 2010, and any subsequent modifications approved up to the issuance of this permit. The permittee submitted an industrial pretreatment program application for EPA approval on December 1, 2012. The application is currently being reviewed by EPA.. Provisions for the industrial pretreatment program are included in Part III of this permit renewal. In addition, monitoring requirements and/or effluent limitations for copper, zinc, fluoride, cyanide, sulfate, arsenic, cadmium, chromium, lead, nickel, chloride, and Whole Effluent Toxicity are being included in the permit renewal.

Organic Pollutant Monitoring

The permittee shall conduct an annual inventory of organic pollutants (see 40 CFR 423, Appendix A) and shall identify and quantify additional organic compounds which occur in the influent, effluent, and sludge. The analytical report shall be sent to the Pretreatment Group. This report is due in December of each year.

Antidegradation

327 IAC 2-1.3 outlines the state's Antidegradation Standards and Implementation Procedures. According to 327 IAC 2-1.3-1(b), the procedures apply to a proposed new or increased loading of a regulated pollutant to surface waters of the state from a deliberate activity subject to the Clean Water Act, including a change in process or operation, that will result in a significant lowering of water quality.

This permit includes new permit limitations for fluoride, zinc, and copper. In accordance with 327 IAC 2-1.3-1, the new permit limitations are not subject to the Antidegradation Standards and Implementation Procedures as the new permit limitations are not the result of a deliberate activity taken by the permittee.

The permittee is prohibited from undertaking any deliberate action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a pollutant or pollutant parameter that is not a BCC unless information is submitted to the commissioner demonstrating that the proposed new or increased discharge will not cause a significant lowering of water quality, or an antidegradation demonstration submitted and approved in accordance 327 IAC 2-1.3.

Effluent Limitations and Rationale

The effluent limitations proposed herein are based on Indiana Water Quality Standards, NPDES regulations, and Wasteload Allocation (WLA) analyses performed by this Office's Permits Branch staff on October 28, 1996, June 14, 2001, April 10, 2007, and November 26, 2012. These limits are in accordance with antibacksliding regulations specified in 327 IAC 5-2-10(11). The final effluent limitations to be limited and/or monitored include: Flow, Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Total Suspended Solids (TSS), Ammonia-nitrogen (NH_3-N), Phosphorus, pH, Dissolved Oxygen (DO), Total Residual Chlorine (TRC), and *Escherichia coli* (*E. coli)*, copper, zinc, fluoride, cyanide, sulfate, arsenic, cadmium, chromium, lead, nickel, chloride, and Whole Effluent Toxicity. Monitoring frequencies are based upon facility size and type.

Final Effluent Limitations for Southport AWT Plant – Outfall 001

The summer monitoring period runs from May 1 through November 30 of each year and the winter monitoring period runs from December 1 through April 30 of each year. The disinfection season runs from April 1 through October 31 of each year.

The mass limits for $CBOD_5$, TSS and ammonia-nitrogen have been calculated utilizing the peak design flow of 150 MGD. This is to facilitate the maximization of flow through the treatment facility in accordance with this Office's CSO policy.

Flow

Flow is to be measured daily as a 24-hour total. Reporting of flow is required by 327 IAC 5-2-13.

$CBOD_5$

$CBOD_5$ is limited to 10 mg/l (12,518 lbs/day) as a monthly average and 15 mg/l (18,776 lbs/day) as a weekly average during the summer monitoring period. $CBOD_5$ is limited to 25 mg/l (31,294 lbs/day) as a monthly average, or 85% removal, whichever is more stringent and 40 mg/l (50,070 lbs/day) as a weekly average during the winter monitoring period. Monitoring is to be conducted daily by 24-hour composite sampling.

The $CBOD_5$ concentration limitations included in this permit are the same concentration limitations found in the facility's previous permit and reflect the WLA performed by this Office's Permits Technical Support Section staff on October 28, 1996.

TSS

TSS is limited to 10 mg/l (12,518 lbs/day) as a monthly average and 15 mg/l (18,766 lbs/day) as a weekly average during the summer monitoring period. TSS is limited to 30 mg/l (37,553 lbs/day) as a monthly average, or 85% removal, whichever is more stringent and 40 mg/l (50,070 lbs/day) as a weekly average during the winter monitoring period. Monitoring is to be conducted daily by 24-hour composite sampling.

The TSS concentration limitations included in this permit are the same limitations found in the facility's previous permit and reflect the WLA performed by this Office's Permits Technical Support Section staff on October 28, 1996.

Ammonia-nitrogen

Ammonia-nitrogen is limited to 1.4 mg/l (1,752 lbs/day) as a monthly average and 2.1 mg/l (2,629 lbs/day) as a weekly average during the summer monitoring period. During the winter monitoring period, ammonia-nitrogen is limited to 2.5 mg/l (3,129 lbs/day) as a monthly average and 3.8 mg/l (4,757 lbs/day) as a weekly average.

Monitoring is to be conducted daily by 24-hour composite sampling. The ammonia-nitrogen concentration limitations included in this permit are set in accordance with the Wasteload Allocation (WLA) analysis performed by this Office's Permits Branch staff on November 26, 2012, and are more stringent than those contained in the previous permit. The new limitations are based upon current ambient conditions of the West Fork of the White River. Please refer to the November 26, 2012 WLA analysis for further explanation.

Phosphorus

Phosphorus monitoring is being required monthly. This monitoring is being required as nutrient pollution and low dissolved oxygen consistently rank among the top impairments to water

quality. Excessive phosphorus and nitrogen can result in harmful algal blooms that affect fish habitat, cause fish kills, lower dissolved oxygen, cause public health concerns related to impaired drinking water sources, and increase exposure to toxic microbes. Nutrient problems can exhibit in local waters as well as much further downstream, leading to degraded lakes and reservoirs. Nutrient pollution is of particular concern with regard to algal problems in some Great Lake waters, and hypoxic zones in the Gulf of Mexico where fish and aquatic life can no longer survive.

pH

The pH limitations have been based on 40 CFR 133.102 which is cross-referenced in 327 IAC 5-5-3.

To ensure conditions necessary for the maintenance of a well-balanced aquatic community, the pH of the final effluent must be between 6.0 and 9.0 standard units in accordance with provisions in 327 IAC 2-1-6(b)(2). pH must be measured daily by grab sampling. These pH limitations are the same as the limitations found in the facility's previous permit.

Dissolved Oxygen

Dissolved oxygen shall not fall below 8.0 mg/l as a daily minimum average during the summer monitoring period. Dissolved oxygen shall not fall below 6.0 mg/l as a daily minimum average.

Dissolved oxygen measurements must be based on the average of twelve (12) grab samples taken within a 24-hr. period and is to be monitored daily. These dissolved oxygen limitations are the same limitations found in the facility's previous permit and are in accordance with the WLA conducted on October 28, 1996.

Total Residual Chlorine

Disinfection of the effluent is required from April 1 through October 31, annually.

Effluent dechlorination will be required in order to protect aquatic life. In accordance with Indiana Water Quality Standards, the final effluent limits (end-of-pipe) for TRC are 0.01 mg/l monthly average and 0.02 mg/l daily maximum. Compliance will be demonstrated if the observed effluent concentrations are less than the limit of quantitation (0.06 mg/l). Disinfection requirements are established in 327 IAC 5-10-6. This monitoring is to be conducted daily by grab sampling.

E. coli

The *E. coli* limitations and monitoring requirements apply from April 1 through October 31, annually. *E. coli* is limited to 125 count/100 ml as a monthly average, and 235 count/100 ml as a daily maximum. The monthly average *E. coli* value shall be calculated as a geometric mean. This monitoring is to be conducted daily by grab sampling. These *E. coli* limitations are set in accordance with regulations specified in 327 IAC 5-10-6.

Metals/Non-conventional Pollutants

Reasonable Potential Evaluations (RPE) were performed in conjunction with the Wasteload Allocation Analysis performed by this Office's Permits Branch staff on November 26, 2012. In reviewing the RPE, the projected effluent quality (PEQ) for arsenic, cadmium, chromium, lead, mercury, nickel, chloride, cyanide, and sulfate is less than the projected effluent limitations (PELs). Therefore, effluent limitations have been removed and/or not included in the permit renewal. However, due to the industrial contributors to the collection system, monitoring requirements for these metals are being retained, at a reduced frequency. Arsenic, cadmium, chromium, lead, nickel, chloride, cyanide, and sulfate are to be monitored two (2) times monthly.

The RPE performed by this Office's Permits Branch staff on November 26, 2012, revealed that the projected effluent quality (PEQ) for copper, zinc, and fluoride was greater than the projected effluent limitations (PELs). Therefore, effluent limitations for copper, zinc, and fluoride are being included in this permit. Copper is limited to 0.03 mg/l as a monthly average and 0.06 mg/l as a daily maximum. Zinc is limited to 0.25 mg/l as a monthly average and 0.51 mg/l as a daily maximum. Fluoride is limited to 1.8 mg/l as a monthly average and 3.5 mg/l as a daily maximum. This monitoring is to be conducted weekly by 24-Hr. composite sampling. These limitations are a new requirement of the permit renewal.

As the final effluent limitations for copper, zinc, and fluoride are new requirements of the permit renewal, a 36-month schedule of compliance for copper, zinc, and fluoride is included in Part I.D. of the permit. The permittee will utilize the three year timeframe to implement the pollution control measures which the permittee expects will result in compliance with the new limitations.

The permittee is required to monitor for copper, zinc, and fluoride during the interim period as noted in Table 2 of the permit.
In addition to effluent monitoring and limitations, the permittee is required to monitor the influent wastestream as specified in Table 5 of the permit.

Whole Effluent Toxicity Testing

The permittee submitted a Whole Effluent Toxicity Tests (WETT) with the renewal application as required in 327 IAC 5-2-3(g). The submitted WETT did not reveal any toxicity to the tested species.

The permittee shall conduct the whole effluent toxicity tests described in Part I.E. of the permit to monitor the toxicity of the discharge from Outfall 001. This toxicity testing is to be performed biannually for the duration of this NPDES permit. Acute toxicity will be demonstrated if the effluent is observed to have exceeded **1.0** TU_a (acute toxic units) based on 100% effluent for the test organism in 48 and 96 hours for *Ceriodaphnia dubia* or *Pimephales promelas,* whichever is more sensitive. Chronic toxicity will be demonstrated if the effluent is observed to have exceeded **1.1** TU_c (chronic toxic units) for *Ceriodaphnia dubia* or *Pimephales promelas*. If acute or chronic toxicity is found in any of the tests specified above, another toxicity test using the specified methodology and same test species shall be conducted within two weeks. If any two tests indicate the presence of toxicity, the permittee must begin the implementation of a toxicity reduction evaluation (TRE) as is described in Part I.E.2. of the permit.

Final Effluent Limitations for Belmont AWT Plant – Outfall 006

The summer monitoring period runs from May 1 through November 30 of each year and the winter monitoring period runs from December 1 through April 30 of each year. The disinfection season runs from April 1 through October 31 of each year. Monitoring frequencies are based upon facility size and type.

The mass limits for $CBOD_5$, TSS and ammonia-nitrogen have been calculated utilizing the peak design flow of 300 MGD. This is to facilitate the maximization of flow through the treatment facility in accordance with this Office's CSO policy.

Flow

Flow is to be measured daily as a 24-hour total. Reporting of flow is required by 327 IAC 5-2-13.

$CBOD_5$

$CBOD_5$ is limited to 10 mg/l (25,035 lbs/day) as a monthly average and 15 mg/l (37,553 lbs/day) as a weekly average during the summer monitoring period. $CBOD_5$ is limited to 20 mg/l (50,070 lbs/day) as a monthly average, or 85% removal, whichever is more stringent and 30 mg/l (75,105 lbs/day) as a weekly average during the winter monitoring period. Monitoring is to be conducted daily by 24-hour composite sampling.

The $CBOD_5$ concentration limitations included in this permit are the same concentration limitations found in the facility's previous permit and reflect the WLA performed by this Office's Permits Technical Support Section staff on October 28, 1996.

TSS

TSS is limited to 10 mg/l (25,035 lbs/day) as a monthly average and 15 mg/l (37,553 lbs/day) as a weekly average during the summer monitoring period. TSS is limited to 20 mg/l (50,070 lbs/day) as a monthly average, or 85% removal, whichever is more stringent and 30 mg/l (75,105 lbs/day) as a weekly average during the winter monitoring period. Monitoring is to be conducted daily by 24-hour composite sampling.

The TSS concentration limitations included in this permit are the same limitations found in the facility's previous permit and reflect the WLA performed by this Office's Permits Technical Support Section staff on October 28, 1996.

Ammonia-nitrogen

Ammonia-nitrogen is limited to 1.4 mg/l (3,505 lbs/day) as a monthly average and 2.1 mg/l (5,257 lbs/day) as a weekly average during the summer monitoring period. During the winter monitoring period, ammonia-nitrogen is limited to 2.5 mg/l (6,259 lbs/day) as a monthly average and 3.8 mg/l (9,513 lbs/day) as a weekly average.

Monitoring is to be conducted daily by 24-hour composite sampling. The ammonia-nitrogen concentration limitations included in this permit are set in accordance with the Wasteload Allocation (WLA) analysis performed by this Office's Permits Branch staff on November 26, 2012, and are more stringent than those contained in the previous permit. The new limitations are based upon current ambient conditions of the West Fork of the White River. Please refer to the November 26, 2012 WLA analysis for further explanation.

Phosphorus

Phosphorus monitoring is being required monthly. This monitoring is being required as nutrient pollution and low dissolved oxygen consistently rank among the top impairments to water quality. Excessive phosphorus and nitrogen can result in harmful algal blooms that affect fish habitat, cause fish kills, lower dissolved oxygen, cause public health concerns related to impaired drinking water sources, and increase exposure to toxic microbes. Nutrient problems can exhibit in local waters as well as much further downstream, leading to degraded lakes and reservoirs.

Nutrient pollution is of particular concern with regard to algal problems in some Great Lake waters, and hypoxic zones in the Gulf of Mexico where fish and aquatic life can no longer survive.

pH

The pH limitations have been based on 40 CFR 133.102 which is cross-referenced in 327 IAC 5-5-3.

To ensure conditions necessary for the maintenance of a well-balanced aquatic community, the pH of the final effluent must be between 6.0 and 9.0 standard units in accordance with provisions in 327 IAC 2-1-6(b)(2). pH must be measured daily by grab sampling. These pH limitations are the same as the limitations found in the facility's previous permit.

Dissolved Oxygen

Dissolved oxygen shall not fall below 8.0 mg/l as a daily minimum average during the summer monitoring period. Dissolved oxygen shall not fall below 6.0 mg/l as a daily minimum average.

Dissolved oxygen measurements must be based on the average of twelve (12) grab samples taken within a 24-hr. period and is to be monitored daily. These dissolved oxygen limitations are the same limitations found in the facility's previous permit and are in accordance with the WLA conducted on October 28, 1996.

Total Residual Chlorine

Disinfection of the effluent is required from April 1 through October 31, annually.

Effluent dechlorination will be required in order to protect aquatic life. In accordance with Indiana Water Quality Standards, the final effluent limits (end-of-pipe) for TRC are 0.01 mg/l monthly average and 0.02 mg/l daily maximum. Compliance will be demonstrated if the observed effluent concentrations are less than the limit of quantitation (0.06 mg/l). Disinfection requirements are established in 327 IAC 5-10-6. This monitoring is to be conducted daily by grab sampling.

E. coli

The *E. coli* limitations and monitoring requirements apply from April 1 through October 31, annually. *E. coli* is limited to 125 count/100 ml as a monthly average, and 235 count/100 ml as a daily maximum. The monthly average *E. coli* value shall be calculated as a geometric mean. This monitoring is to be conducted daily by grab sampling. These *E. coli* limitations are set in accordance with regulations specified in 327 IAC 5-10-6.

Metals/Non-conventional Pollutants

Reasonable Potential Evaluations (RPE) were performed in conjunction with the Wasteload Allocation Analysis performed by this Office's Permits Branch staff on November 26, 2012. In reviewing the RPE, the projected effluent quality (PEQ) for arsenic, cadmium, chromium, lead, mercury, nickel, chloride, fluoride, and sulfate is less than the projected effluent limitations (PELs). Therefore, effluent limitations have been removed and/or not included in the permit renewal. However, due to the industrial contributors to the collection system, monitoring requirements for these metals are being retained, at a reduced frequency. Arsenic, cadmium, chromium, lead, mercury, nickel, chloride, fluoride, and sulfate are to be monitored two (2) times monthly.

The RPE performed by this Office's Permits Branch staff on November 26, 2012, revealed that the projected effluent quality (PEQ) for copper, zinc, and cyanide was greater than the projected effluent limitations (PELs). Therefore, effluent limitations for copper, zinc, and cyanide are being included in this permit. Copper is limited to 0.03 mg/l as a monthly average and 0.06 mg/l as a daily maximum. Zinc is limited to 0.25 mg/l as a monthly average and 0.51 mg/l as a daily maximum. Cyanide is limited to 0.00096 mg/l as a monthly average and 0.019 mg/l as a daily maximum. This monitoring is to be conducted weekly by 24-Hr. composite sampling. These limitations are a new requirement of the permit renewal.

As the final effluent limitations for copper and zinc are new requirements of the permit renewal, a 36-month schedule of compliance for copper and zinc is included in Part I.D. of the permit. The permittee will utilize the three year timeframe to implement the pollution control measures which the permittee expects will result in compliance with the new limitations.

The permittee is required to monitor for copper and zinc during the interim period as noted in Table 4 of the permit.

In addition to effluent monitoring and limitations, the permittee is required to monitor the influent wastestream as specified in Table 6 of the permit.

Whole Effluent Toxicity Testing

The permittee submitted a Whole Effluent Toxicity Tests (WETT) with the renewal application as required in 327 IAC 5-2-3(g). The submitted WETT did not reveal any toxicity to the tested species.

The permittee shall conduct the whole effluent toxicity tests described in Part I.E. of the permit to monitor the toxicity of the discharge from Outfall 006. This toxicity testing is to be performed biannually for the duration of this NPDES permit. Acute toxicity will be demonstrated if the effluent is observed to have exceeded 1.0 TU_a (acute toxic units) based on 100% effluent for the

test organism in 48 and 96 hours for *Ceriodaphnia dubia* or *Pimephales promelas,* whichever is more sensitive. Chronic toxicity will be demonstrated if the effluent is observed to have exceeded **1.1** TU_c (chronic toxic units) for *Ceriodaphnia dubia* or *Pimephales promelas*. If acute or chronic toxicity is found in any of the tests specified above, another toxicity test using the specified methodology and same test species shall be conducted within two weeks. If any two tests indicate the presence of toxicity, the permittee must begin the implementation of a toxicity reduction evaluation (TRE) as is described in Part I.E.2. of the permit.

Backsliding

None of the concentration limits included in this permit conflict with antibacksliding regulations found in 327 IAC 5-2-10(11)(A), therefore, backsliding is not an issue.

Reopening Clauses

Seven reopening clauses were incorporated into the permit in Part I.C. One clause is to incorporate effluent limits from any further wasteload allocations performed; a second clause is to allow for changes in the sludge disposal standards; a third clause is to incorporate any applicable effluent limitation or standard issued or approved under section 301(b)(2)(C), (D) and (E), 304(b)(2), and 307(a)(2) of the Clean Water Act; a fourth clause is to incorporate monitoring requirements and effluent limitations for arsenic, cadmium, chromium, copper, chloride, cyanide, lead, fluoride, mercury, nickel, phosphorus, sulfate, and/or zinc; a fifth clause is to include whole effluent toxicity limitations or to include limitations for specific toxicants; a sixth clause is to include a case-specific Method Detection Level (MDL); and a seventh clause is to incorporate additional requirements or limitations for specific toxicants if the required additional analyses in Part I.A. indicate that such additional requirements and/or limitations are necessary.

Compliance Status

The permittee is subject to Consent Decree 1:06-cv-1456-DFH-VSS for the control of CSO.

Expiration Date

A five-year NPDES permit is proposed.

Drafted by: Jason House
January 2012